The Open Space and Conservation Chapter is non-mandated. It is provided for information and advisory purposes. The recommendations contained in this chapter fulfill the stated goals and objectives do not create new legal mandates for local governments or other regional organizations.

Chapter 9

OPEN SPACE AND CONSERVATION

- **Introduction**
- **Purpose**
- **Current State and Federal Law**
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A. INTRODUCTION

The population of the Southern California Association of Governments region is expected to increase from its 1993 base of 15 million to 20.5 million by 2010. If the current development trend is assumed, the physical size of the developed portion of the region could be up to 33 percent larger than its current size. Urban-type land uses and facilities needed to support the additional growth will consume a large portion of the remaining privately-held land in the region. Some of these lands currently devoted to resource production contribute significantly to the region's gross domestic product and local tax base. For example, mining and agriculture generated $2.5 billion in 1991 and $2.8 billion in 1992. Some of the remaining lands are used for outdoor recreation, while others are

critical linkages essential for the survival of certain species or ecosystems in the region.

The indiscriminate conversion of lands to urban development may lead to the loss of many open space resources and monetary costs, such as from building in hazardous areas and loss of agricultural products. With the destruction of some of the critical ecosystems and sensitive habitats in the region, the federal and state governments will likely impose more stringent resource protection and conservation requirements through the application of endangered species acts. Fewer open spaces for recreation lowers the quality of life and increases urban flight, some of it out of Southern California and the state.

With the current fiscal constraints, local governments are faced with the increasingly difficult task of finding adequate funds to acquire and manage open space areas.

B. PURPOSE

The purpose of the Open Space and Conservation Chapter is to assist local governments in planning for local and regional open space. This Chapter is intended to accomplish the following:

- An inventory of some regionally-significant open space resources and an assessment of their continued viability in view of the potential impacts of future growth and development;
- A framework for resolving potential conflicts between development and open space needs;
- Strategies for better coordination of open space and land-use planning; and,
- An assessment of potential institutional and funding options for the planning and acquisition management of open space resources.

In summary, the Chapter recommends alternative approaches, and strategies that can be useful to local officials as they address future open space needs within their communities.

C. CURRENT STATE AND FEDERAL LAW

California Government Code § 65302 et seq., requires that a local jurisdiction's general plan includes policies for the preservation and protection of open space and agricultural lands, and the conservation of essential natural resources. Each city in the Association's region is required to maintain a current general plan with seven mandatory elements, including land use, housing, transportation, open space and conservation. The law accords the open space and conservation elements equal status with the other five elements. This has been re-enforced by the courts. In the case, *Sierra Club v. Kern County (1981)*, the California Court of Appeals judge voided a precedent clause that gave a land-use element priority over an open space element on the grounds that it violated Government Code Section 65300.5 requiring that the elements of a general plan carry equal status and be internally consistent.

The federal and state *Endangered Species Acts* have required that resource conservation and protection be imposed on the region. These requirements are cited as one of the reasons for the higher cost of housing and

business in the region and business flight. Both federal and state governments maintain listings of rare, threatened, and endangered species and require implementing agencies, including local governments, to develop policies for their protection. The federal listing for the region currently includes about 50 species of plants and animals, including the California Gnatcatcher, Desert Tortoise, and Stephens' Kangaroo Rat.

Until recently, affected jurisdictions and land management agencies developed plans for the protection of individual species on either the federal or state registers. Individual species plans were developed for the Desert Tortoise, Desert horn Sheep, Stephens' Kangaroo Rat, and recently, the Gnatcatcher and the Coastal Cactus Wren.

In recent years, attention has shifted from planning for individual species to planning for multiple habitats and ecosystems. Besides being cumbersome, planning for individual species has not proven to be effective in protecting listed species and is perceived by government, landowners, and developers as one of the reasons for the high cost of housing and doing business in the region. These groups equate resource protection policies to project delays and expensive mitigation measures - higher costs for housing and doing business. When coordinated with local general plans, development of ecosystems management plans/Natural Communities Conservation Plans (NCCP) can provide a valuable tool in helping to address these concerns.

D. ROLES AND RESPONSIBILITIES

An analysis of the roles and responsibilities of local, state and federal jurisdictions, regional agencies, special districts, private and special interests would show a picture of land-use administration and regulation that is very complicated, confusing, and fraught with conflicts. Figure 9-1 shows major land ownerships.

The roles and responsibilities of agencies are not the same and in many cases conflict. The mandates of many state and federal agencies tend to focus on limited uses, environmental protections, and regulation. The mandates of local agencies tend to focus on the orderly development and servicing of private lands. But through planning, regulation, and other incentives, inadequately provide the amount and degree of protection needed for open spaces. The total of jurisdictions severely fragments open space resources such that no agency can provide the protection required.

In 1977, the Association published a regional Conservation and Open Space Plan. This plan addressed the issues facing the region in terms of conservation of natural resources and preservation of open space areas and sensitive ecological areas. The lack of coordination among the various agencies with land management responsibilities in the region limited the effectiveness of the plan. These agencies have to respond to variable and often conflicting mandates. Although the plan has not been revised since its adoption, open space issues continue to be addressed in local general plans and in plans prepared by the Federal Department of the Interior and Agriculture, the State Department of Resources, and many private companies with large land holdings in the region.

As shown in Figure 9-2, approximately 65 percent of the land in Southern California is public and administered by agencies of local, state, and federal governments, including the Bureau of Land Management, the U.S. Forest Service, the Department of Defense, the National Park Service, State Lands Commission, and State Parks & Recreation. Catellus Corporation and the railroad industry owns approximately 11 percent (the "checkerboard" land pattern in the desert parts of San Bernardino, Riverside, and Imperial Counties.), leaving less than 25 percent in private ownership.

The potential preservation areas are those areas of public lands with species issues that result from management conflicts. While many species are involved in these areas, the most extensive species involved

Figure 9-1 Land Administration

Figure 9-2

in these areas are the Desert Tortoise, Big Horn Sheep, Mohave Ground Squirrel, Southern Spotted Owl, and Flat Tailed Horned Lizard. Figure 9-2 shows generalized areas of species at risk. Areas shown as "Current" include wilderness areas, state and federal parks and preserves, and refuges. "Potential Preservation" areas are those with significant habitat and species issues resulting from management conflicts. Plans for these areas are underway and decisions resulting from these plans may include dedicating large areas to habitat and species protection.

On the surface, it appears that there is no shortage of open space in the Association area. However, the remaining lands are not feasibly located, accessible, or appropriate to meet the region's open space needs. Figure 9-3 shows that majority of the privately-held lands in the coastal part of the region are already developed.

Growth projections indicate that nearly all of the remaining privately held lands in the coastal valleys will be developed (see Figure 9-4). Significant development pressures can also be expected in the outlying areas on vacant lands currently perceived as open space. The additional growth will further strain the capacity of existing state and national parks and public campgrounds, which are already showing signs of overuse. In recent years many public campgrounds have not been able to accommodate the demand of potential users particularly during holidays.

Simultaneous with urbanization pressures on private lands is increasing protection and preservation pressures on public lands - particularly the 13 million acres of desert and mountains that the BLM and the U.S. Forest Service manage. Political and environmental initiatives for more wilderness, parkland and habitat protection are foreclosing many traditional multiple uses that will have to be accommodated somewhere else.

E. TYPES OF OPEN SPACE

Four major types of open space areas are focused upon:

Outdoor Recreation

These include areas of outstanding scenic, historic, and cultural value; areas suited for outdoor recreation activities, including lake shores, beaches, rivers, and streams; and areas serving as links between major recreation and preservation areas, including utility easements, trails, and scenic highway corridors. The region is surrounded by the national forests, the Mojave and Sonoran deserts to the north and the Pacific Ocean to the south. Land areas in this category currently fall under the jurisdictional control of many public and private agencies.

Public Health and Safety

These are areas requiring special management or regulation because of hazardous or special conditions such as earthquake fault zones, areas with unstable soil, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, areas under air spaces used by civilian and military aircraft, and areas required for the protection and enhancement of air quality.

Figure 9-3

Figure 9-4

Resource Production

These are areas designated for the production of crops, fisheries, timber, and mineral resources; and sites and corridors for the production and transmission of energy and utilities. Land resources in this category are most vulnerable to urban development. The cost of water, encroachment of urban development, and current tax laws (*Williamson Act*), are some of the factors influencing the conversion of resource production lands, including agricultural lands, to urban development.

Resource Protection

These are areas set aside for the protection and management of natural habitats and species. Such areas offer valuable research and educational opportunities for improved management expertise and human understanding. Much of Southern California's biological diversity has been lost during the past several decades. Future development necessitated by the predicted growth in the region will place demands on the remaining resources. As currently implemented, the state and federal *Endangered Species Acts* regarding the listing of rare, threatened or endangered species, create uncertainty and contention for developers, environmentalists and governments.

F. GOALS

To support and ensure a high quality of life and equity for Southern California residents, the following goals are established for each of the open space areas:

Outdoor Recreation

- **Provide adequate land resources to meet the outdoor recreation needs of the present and future residents in the region and to promote tourism in the region.**

  - ❍ Increase the accessibility to open space lands for outdoor recreation.

  - ❍ Promote self-sustaining regional recreation resources and facilities.

Public Health and Safety

- **Maintain open space for adequate protection to lives and properties against natural and man-made hazards.**

  - ❍ Minimize potentially hazardous developments in hillsides, canyons, areas susceptible to flooding, earthquakes, wildfire and other known hazards, and areas with limited access for emergency equipments.

  - ❍ Minimize public expenditure for infrastructure and facilities to support urban type uses in areas where public health and safety could not be guaranteed.

Resource Production

- **Maintain adequate viable resource production lands, particularly lands devoted to commercial agriculture and mining operations.**

Resource Protection

- **Develop well-managed viable ecosystems or known habitats of rare, threatened and endangered species, including wetlands.**

These goals emphasize the contribution of open space resources to the economy of the region, the quality of its environment, and the safety and security of its residents. To achieve these goals, the Association's primary role will consist of a facilitator in federal, state, and local partnerships and as a repository for information that will assist local governments to carry out their open space and conservation planning responsibilities. Section I. **Implementation** details the various roles of the Association as it pertains to open space and conservation.

G. METHODOLOGY, MAPPING, AND APPROACH

Over the years, regulatory command and control requirements have not proven to be effective. Instead, the Chapter focuses on systemic and market-based strategies that suggest new processes and analyses for more enlightened local government land-use decisions and facilitated implementation.

Systemic Approach

This approach focuses on the interrelationships between open space resources and peoples' quality of life. Understanding the potential effects of an action requires looking beyond local impacts, with an eye toward the relationship between local resources and needs and regional perspective. Local jurisdictions should plan for developments and open space uses to complement those of adjacent jurisdictions and in recognition of the regional picture.

The Systemic Approach emphasizes the need to coordinate the planning and management responsibilities of the many agencies and entities involved with open space issues, and land-use planning and development in the region. Better information, planning and cooperation among jurisdictions will put resource information in the best light and framework for decisionmaking.

The approach recommends ecosystem management planning involving all areas and jurisdictions with common concerns as well as land owners, conservation agencies and interest groups. Resulting plans should be comprehensive (i.e., multiple open space resources, multiple land-use needs, multiple jurisdictions) and should include workable decisions for conservation and development, acquisition and management measures, and protocols for project processing and mitigation.

In the long term, this approach will streamline the project review process and reduce costs associated with

such reviews including environmental mitigation costs. It provides a chance for successful, proactive integration of the needs for species and habitats in land use planning where the federal *Endangered Species Act* has failed to do so. It also provides all interests with greater predictability for land-uses, and improved methodology to assess the cumulative impacts of proposed projects.

The Association of Governments should promote and facilitate ecosystem management planning and/or NCCP. If there are conflicts or gaps in planning among subregions, the Association arbitrates and uses conflict resolution. The Association should continue to collect accurate and updated information on open space resources. This information should be made available in digital form at the regional level to provide assistance to local governments in their planning, management and monitoring activities. The Association should also work with member agencies and take the lead where needed and efficient to obtain data for all local governments. This could include "GAP" data, wildlife data from the California Fish & Game (Natural Diversity Data Bank), and many other data that is not currently available to local governments. The "GAP Analysis" is a process for identifying gaps in protection of species and habitats and predicting future areas of biodiversity losses and fragmentation. A directory/atlas of open space data that the Association does manage should be made available to members.

Market-Based Approach

Private property rights are often in conflict with public open space preservation objectives. A Market-Based Approach focuses on methodologies and criteria to assess the true value of open space resources and the value and cost of land development. This information will help guide decisions to convert a vacant land to other uses. The information presented to make this decision should include the following:

- Known economic benefits of the land resource, undeveloped and developed;
- Implied economic benefits of the resource and the proposed project;
- Public cost to provide facilities and services to the site, if developed, and to provide special relief if the site is in hazard-prone areas;
- Planning, environmental mitigation, and legal costs; and
- Other miscellaneous costs.

This approach emphasizes the need to assess the total of all costs associated with a project and to assess the net economic and implied benefits of the project upon completion, to determine the reasonableness of the proposed project. The cost-benefit analysis approach will allow for informed and cost effective land-use decisions. These could be difficult, require research, or be time-consuming to develop. The Association should develop standard methodologies to performing such analyses for the member local governments. The approach notes the following:

- Certain resource production lands are best left undeveloped; agricultural, mineral, recreation, tourism enhancing, and other productive and economic lands may be more economically valuable left in open space.

- The public cost to provide services and/or relief to hazard prone areas and the potential threat to lives and properties in these areas may make development in these areas an unacceptable public risk. Such areas may be best left undeveloped.

- Certain sensitive habitats and linkages should be left undeveloped to avoid major mitigation costs, special studies, long environmental processes, recovery planning for listed species, and litigation.

- The sociological and psychological benefits of open space resources are often ignored when making land-use decisions. Factoring these benefits into land-use discussions will lead to better-informed decisions. Such intangible values can be difficult to quantify in monetary terms. The Association should research the latest thinking on this to see if it is possible. For instance, whether or not a particular social problem be attributable to a lack of open space and be translated into lowered property values or crime scenarios, both of which have monetary impacts.

- Investments in infrastructure will be focused to limit the encroachment of urban development on open space resources.

- Multiple use of open space resources and other land uses is beneficial in limiting the rate of land consumption.

- Proactive planning for open space resources will reduce development costs and unnecessary delays in project development.

H. ISSUES AND STRATEGIES

The four major types of open space resources -- Outdoor Recreation, Public Safety, Resource Production, and Resource Protection -- are consistent with those required of local general plans. As much as possible, responsible agency and implementation recommendations are included with strategy recommendations. It should be noted that there are occasions where conflicts arise between the competing open space resources, such as recreational uses and resource production.

Outdoor Recreation

People need areas for outdoor recreation. Many people in the Southern California region do not have enough places and variety of opportunities or access to such places due to distance and poor public transportation. As the population grows, the deficit will increase. Not having such places and opportunities lowers the quality of life and invites social ills. As reflected in the previous discussion and Figure 9-1, there is a large amount of state and federal acres for recreation in the Southern California area. However, using acreage and distance standards, there is a deficit of city/county sponsored recreation opportunities in core urban areas (see Table 9-1). As urban centers become more dense, there will be a greater demand for outdoor recreation areas that are easily accessible. The diversity of opportunity offered by landform and ocean, proximity of vast public lands, and favorable climate bless the Southern California region with good resources and opportunities, considering the size of the population. One of the biggest current shortages is in city neighborhood facilities.

A recent public opinion survey done for the State Department of Parks and Recreation indicates the following:

- Eighty-eight percent of Californians felt that having adequate places and facilities for recreation

was very important.

- Eighty percent of Californians spend their time in natural or undeveloped areas.
- Seventy percent of Californians felt that more areas and facilities were needed in and near cities.
- Ninety-four percent of Californians felt that it is important to protect important natural areas.
- Seventy-five percent of Californians felt that recreation can promote the economy through jobs tourism.
- Sixty-six percent of Californians felt that nearby areas and facilities increase property values and neighborhood quality of life.

With the current fiscal crisis, Southern Californians face with difficult tradeoffs between funding recreation and open space needs to other community services such schools, libraries, and police protection.

TABLE 9-1 ACRES OF RECREATION OPPORTUNITIES ON PUBLIC LANDS

Level	Ownership	Acres	Notes
Federal	U.S. Forest Service	3,830,000	wilderness multiple opportunities
	Bureau of Land Management	10,000,000	wilderness multiple opportunities
	National Park Service	5,700,000	includes all of Death Valley N.P. wilderness preservation oriented
State	Beaches	5,700	
	Parks	45,000	
	Recreation Areas	57,000	
	Wilderness Areas	103,000	
County	Los Angeles	6,600	
	Orange - Inland	12,000	
	Orange - Coastal	1,000	
	San Bernardino	8,400	
	Riverside	22,000	
	Ventura	5,800	
	Imperial	1,061	

City Not calculated

Issues

1. According to the standards set by the National Recreational Association, the Association's region is quantitatively and qualitatively deficient in regional recreation and trail opportunities. The demand is unique for the number of people and their socio-economic characteristics. The gap between demand and provided opportunities will increase with the growing population and become more difficult to close with future open space losses and with environmental/political foreclosure of certain types of uses on public lands. Continued shortfalls may result in the depreciation of residents' quality of life.

2. An inadequate supply of opportunities, especially in the urban core, creates:

    - More pressure on biodiversity areas from displaced, non-managed uses.
    - More pressure upon outlying jurisdictions (where there is more open space) to provide more.
    - Inadequate investment in public transportation to the existing open space areas, thereby exacerbating reliance on private transportation.
    - The distance of the available resources limits accessibility of the poor.

3. No state or regional vision exists to guide and assess the adequacy of recreation and trail programs of jurisdictions, individually and collectively, for both residents and tourists.

4. Existing sites are often filled to capacity creating management problems. Some ethnic groups are not attuned to prevailing use and resource management norms.

5. Special attention be focussed on historical and cultural sites (e.g. prehistoric and historic Native-American occupation and burial).

6. Current redevelopment efforts do not include outdoor recreation needs in the urban core as a priority development type. Redevelopment practices should be reevaluated to address outdoor recreation. This will become even more important as the region looks beyond the 2010 planning horizon.

7. Recreation trails programs of individual jurisdictions and utility companies and other holders of rights-of-way are not coordinated to provide regional trail opportunities.

8. Existing funding mechanisms are inadequate to provide the necessary funding for local governments to plan, acquire, and manage open space and recreational areas. Funding requirements have unfairly fallen to the landowners.

Strategies

1. The Association should encourage subregional open space councils for public and private recreation/tourism interests to initiate vision-setting processes; continuous dialogues to address future demands, and guidance and coordination all Southern California jurisdictions and the private sector in their public recreation programs. The subregional organizations could easily serve this role. Recreation strategies should build upon the resources already established by local, state, federal, and private entities with new needs and include them in ecosystem planning to reduce conflicts. While many member jurisdictions may be obvious (e.g., cities, counties, State Parks and Recreation, U.S. Forest Service, National Park Service, Bureau of Land Management), many others should be considered as well (e.g., utility companies, conservancies, private interests, chambers of commerce, California Coastal Commission, California Department of Fish and Game).

2. Subregional open space councils should work with member jurisdictions on ways of increasing recreational opportunities closer to urban cores, creating recreational opportunities (multiple uses) in natural, industrial, rights-of-ways, and commercial areas where feasible and practical; connecting individual trails systems into regional systems; and promoting redevelopment projects that include recreational uses and facilities in total or in part.

3. Recreation facilities, both passive and active, should be considered an important resource in youth development initiatives. Government and broader social expenditure priorities should reflect this need.

4. Agencies proposing and reviewing proposals for transportation systems should ensure that existing/new systems provide access from urban cores to regional recreation centers and major trailheads.

5. Subregional open space councils should encourage that agencies with trails and trail segments determined to be regionally significant to amend their land use plans to support such networks. In encouraging joint use of utility, transportation and other rights-of-ways, rivers, and biodiversity areas, open space, and other appropriate components of local plans should have trail programs in common.

6. Subregional open space councils should coordinate recreation funding needs with other open space funding needs and aggregate requests for Association action for maximum effect with state, federal, and other funding sources.

7. Subregional open space councils should establish guidelines for land and program needs that fit particular areas. The need for new areas in and around urban cores may be greater than in areas already rich with high amounts of public lands.

8. The Association and subregions, including the region's University systems, should cooperatively work toward the following:

    - Developing areas having historic and prehistoric archaeological resources for potential protection and public education;
    - Working with Native-Americans in identifying cultural and archeological significant areas important for local materials collection and other uses and held sacred. These areas should be considered on their own and in conjunction with other open space planning for retention as permanent open space.

9. The Association should initiate research to create a stronger economic base for the benefit of recreation and tourism on the economy, reducing crime and social tension, and to maintain high property values to support both economic and social programs. Such information would be used to develop cost-benefit analyses in land use planning to better assess outdoor recreation needs.

10. The Association should initiate research opportunities for private recreation in natural areas where ecosystem management planning minimizes the acquisition burden.

11. The Association should develop a program that member jurisdictions can build upon to promote private recreation, voluntarism, and other support for as many existing and new recreation site needs as possible through interest groups, rehabilitation programs, schools, and businesses. Such programs can serve one-time needs and long-term adoption to help continue existing and to create new programs with less funding, and to create more understanding and caring for public spaces.

12. The Association should encourage state and federal agencies to participate with local governments in land trading to achieve the necessary open space.

13. Recognizing that all open space cannot be equated with recreational use, the Association should encourage local governments to consider visual and health amenities in open space planning and planning for infrastructure and other facilities in scenic open space areas.

Public Health and Safety

Southern California has many natural hazards to cope with, including the following:

- All low-elevation, native vegetation is extremely flammable and even dependent upon fire for its life cycles.

- The Los Angeles Basin has the highest potential for a large amount of rainfall in a short period of time of anywhere in the country. Periodic long-term/high-intensity rainfall, absence of foothills and high, steep, thin-soil mountains can bring enormous amounts of water onto the floodplain.

- Coastal Southern California is geologically very young with significant seismic activity and unstable soils.

Most jurisdictions in the region have extensive inventory on hazards and hazard-prone areas. Prevailing state laws seem to provide adequate guidance on developing in hazard-prone areas. The reality is the following:

- Extensive development exists in hazard areas; sometimes catastrophes occur.

- The periods between big catastrophes are usually long enough that the memory fades; and more development gets permitted in hazard areas, thereby increasing the potential for more catastrophes.

- The region has variable degrees of hazards, fire, flood, landslide, seismic, airport, etc., each requiring different types of planning.

- In the case of fire hazards fire control to reduce danger is frustrated and fuels build up due to the fear of controlled fires getting out of control and burning surrounding developed areas and 100 years of suppressing fires before they run their normal courses. Consequently, wild fires today tend to be very large and catastrophic.

Issues

1. Areas with man-made and environmental safety implications have been developed, continue to be developed or are encroached upon. Over the years, lives and properties have been lost, and billions of dollars have been expended building and rebuilding. As more hazardous areas are built and encroached upon, the tragedy frequency increases.

   In spite of the human and fiscal tragedies that occur in hazard-prone areas, permits to rebuild in these areas are often granted, without adequate assessment of adequacy of the applicable development and building standards. Without adequate development and building standards, the potential remains for future catastrophic occurrences.

2. Allowing development to occur along the ridgeline has the potential to affect safety because of the steep terrains encountered and limited emergency access roads.

Strategies

1. The Association should continue to compile information for a regional hazards inventory and risk rating system to be used by local governments in their various urban, ecosystem, and recreation planning efforts. Minimum standards recommendations for land use, design, mitigation, and limits of commitment of public funds should be developed and adopted by local governments.

2. The Association should collaborate with the U.S. Forest Service, California Division of Forestry and Fire Protection, and University of California at Berkeley for the development of fire models for natural, rural and urban-interface areas to aid in the development of land use planning, ecosystem management and urban development design criteria. The same initiatives should be undertaken for other hazards as well with appropriate institutions.

3. The Association should promote the development of true economic models of social and economic costs for building in hazard areas and should serve as a repository for such models to facilitate local governments' awareness and access to them. These models and subsequent information will be available for use by local governments in their land use planning and decisions.

4. The Association should initiate the sharing of ideas among local government, landowners, insurers, regulators, investors, scientists, and disaster relief agencies to promote new ideas and policies to apply.

5. The Association should work with local jurisdictions and developers in establishing criteria to guide local jurisdictions in the acquisition of private land or the development rights to private lands if, in the long run, the acquisition of an area is determined to be less expensive than converting the area to a more intense use. The criteria should help indicate when the public cost to support development in hazard-prone areas is unacceptable.

6. The Association should encourage local governments in their planning, regulatory and implementation functions to consider the safety impacts of future development along the ridgelines in their jurisdictions.

Resource Production

AGRICULTURE

Farming was once the mainstay of the region's economy and still is quite important in Imperial, Riverside, San Bernardino, and Ventura counties. Agricultural production in 1992 was $2.8 billion in the region and helps to keep the economy diverse and buffered from economic downturns in other sectors. Given the nature and amount of Prime, Statewide, and Unique soils and the area's climate, the Association's region is one of the great agricultural areas of the world (see Table, 9-2). Agricultural land is less demanding of infrastructure and services. The economy of the region is less healthy today with the loss of agriculture and increased service costs than it once was. The retention of agriculture in regional centers is important to the country as more agricultural centers buffer the adverse effects of seasonal regional agricultural catastrophes.

As valuable and important as they are for agriculture, these lands can sell for more money for urban development than for agricultural use, especially along the agricultural-urban interface. Aggravating the conversion trend are the extensions and availability of infrastructure, lack of regional perspective of the true value of agriculture, weak or non-supporting regulations, the price and availability of water, and conflicts between urban and agricultural uses. In the Water Resources Chapter, 80 percent of the water in the non-MWD area was used for agricultural purposes and the future reliability of water supply is an important issue. An equitable system of water transfers should be developed so that water used for agricultural purposes are not bought by those urban interest. Because the population increases, the demand for conversion will increase.

The retention of agricultural industries is fairly strong in Ventura, Imperial, and parts of Riverside counties because of strong support in inventory, planning, regulation, and jurisdictional leadership.

Issues

1. Agricultural land has been and continues to be converted to urban development.

2. The agriculture-urban interface creates use compatibility problems.

3. The price of water makes agricultural uses prohibitive in some areas.

MINERALS

The Association's region is one of the most mineralized areas (amount, diversity, and economic grade) in the world. Many of its minerals are considered nationally strategic. Production in 1991 in the region was $1 billion, 40 percent of the production of the entire state (see Figure 9-5 and Tables 9-3 and 9-4). Current and future environmental, urbanization, and political initiatives apply and will continue to apply pressure on mineralized areas. The most significant current pressures are from urbanization in coastal sand and gravel areas and various preservation initiatives on federal public lands (see Figure 9-2). The region is extremely rich in aggregates, but approximately 90 percent have been lost to existing development or are in river flood plains where environmental problems preclude their extraction.

Table 9-2 THE REGION'S AGRICULTURAL LAND AND PRODUCTIVE VALUE

County	Area in Ag Land	% of Total County	% Ag in Prime	% in Grazing	1992 Value - All Commodities
Imperial	559,435	54	38	0	$853,500,000
Los Angeles	275,244	26	8	80	$195,600,000
Orange	61,009	12	24	65	$ 251,700,000
Riverside	661,841	34	29	21	$ 641,700,000
San Bernardino	3,473,776	26	2	98	$ 188,600,000
Ventura	336,159	60	16	60	$ 723,500,000
Total	5,367,464	--	1075		$ 2,854,600,000

Notes: Area in acres and includes Prime, Unique, Statewide, Local and Grazing lands.
Crop Categories are Field, Vegetables & Melons, Fruits & Nuts, Seed & Nursery, Livestock, and Apiary.
The portion of non-grazing agricultural land to total the Association area is 7.5%.

Orange and Los Angeles are import counties and most of the aggregates from all active coastal area quarries will be depleted in the next six years. New materials will have to be transported from distant sites on the desert side of the San Gabriel and San Bernardino Mountains or from sources even more distant. When transported by truck, the cost of materials doubles for every 20 miles hauled. Except for alluvial deposits near the high coastal mountains, the remainder of the desert is poor or very limited in sand and gravel.

Issues

1. Construction industry aggregates are becoming lost to urbanization in coastal Southern California.

2. Minerals used for urban development creates visual, aesthetics, and noise problems.

3. Mineral resources issues do not get adequate attention under current land-use planning practices. The existing state laws for the protection of essential mineral resources may need to be strengthened.

Strategies

1. The Association should serve as a clearinghouse for relevant inventory and information on the location of minerals and soils suitable for agriculture, the nature and value of agricultural and mineral production and their contribution to the region's economy. The information should be scaled to counties and subregions, and made available to local decisionmakers as guides to making land-use decisions.

2. The Association should facilitate the development of a strategic plan to address the aggregates industry. San Diego County should be invited to participate due to commonality in implications.

3. Jurisdictions include mineral resources into ecosystem planning.

4. The Association should encourage local governments to perform economic evaluations of agricultural and mineral resources and support industries in their general planning in comparison with the values and costs of other land uses. Assessments should include the contributions to local, state and national economies, and short-term/long-term implications of conversion of land use and should be balanced with other considerations.

5. Local jurisdictions should develop a tax policy for areas that are to remain in open space for agriculture and minerals that is commensurate with the permanent uses.

Figure 9-5 Location of Mineral Resources

TABLE 9-3 CLASSIFICATION OF MINERAL COMMODITIES IN THE Association AREA

Metallic	Non-metallic Industrial	Non-metallic Construction	Energy
Gold	Limestone	Sand and Gravel	Oil and Gas
Silver	Wollastonite	Perlite	Geothermal
Lead	Fluorite	Rock and Stone (various)	
Copper	Silica	Clay	
Zinc	Gypsum	Pumice	
Molybdenum	Talc	Building stone	
Tungsten	Kaolinite	Tufa	
Thorium	Pyrophylite	Pozzolana	
Uranium	Barite		
Iron	Boron		
Chromium	Zeolite		
Manganese	Jasper		
Magnesium	Dolomite		
Rare Earths	Gems		
Cobalt	Sulphur		
	Volcanic cinders		
	Sodium Minerals		
	Potassium Minerals		
	Phosphate/Apatite		

TABLE 9-4 UNITED STATES STRATEGIC AND CRITICAL MINERALS AND METALS

Commodity	Strategic Rating	Significant in the Association Area
Antimony	SX	No
Arsenic	X	No
Asbestos	SX	No
Barite	X	Yes
Bauxite and Alumina	SX	No
Beryllium	S	No
Bismuth	SX	No
Cadmium	SX	No
Chromium	SX	Yes
Cobalt	SX	Yes
Columbium	SX	No
Copper	S	Yes
Diamond (industrial)	SX	No
Fluorspar	SX	Yes
Germanium (rare earth)	S	Yes
Graphite	SX	No
Iodine	SX	No
Lead	S	Yes
Manganese	SX	Yes
Mercury	SX	No
Mica (sheet)	SX	No

Nickel	SX	No
Platinum (group - e.g. gold)	SX	Yes
Potash	SX	Yes

TABLE 9-4 (cont.) UNITED STATES STRATEGIC AND CRITICAL MINERALS AND METALS

Commodity	Strategic Rating	Significant in the Association Area
Quartz Crystals	S	No
Rutile	S	No
Silver	X	Yes
Strontium	X	No
Talc (Steatite block and lump)	S	Yes
Tantalum	SX	No
Tin	SX	No
Titanium	S	No
Tungsten	SX	Yes
Vanadium	S	No
Yttrium	X	No
Zinc	SX	Yes

Legend

List developed by the Bureau of Mines in 1987

S = On National Defense Stockpile List in 1987
X = Net import reliance of 50% or more in 1987

Significance = known to occur or has high or moderate potential for occurrence (State guidelines)

Resource Production

California's flora and fauna are unique in the world. The state contains 25 percent of all the plant species of North America; 30 percent (1,758) of the plant species are endemic and are found no where else. Southern California, in turn, contains 50 percent of California's habitat types, has 50 percent of the 108 California-listed threatened and endangered species, and 320 species of plants and animals that are candidates for listing. The combination of uniqueness and threat makes California one of the 18 ecological "hot spots" of the world (E.O. Wilson, Diversity of Life, 1992, p.262) , the only one that is in the United States.

The following criteria is recommended by local, state, and federal agency representatives as a preliminary attempt to deal with threatened and endangered species and their habitats, identifying significant biological resources and helping to guide development of local resource protection plans.

1. Dramatic loss/decline of species/habitat
2. Limited populations/habitats (e.g., wetlands)
3. Limited population size/habitat area
4. Listed/candidate species under state/federal *Endangered Species Acts*
5. Species restricted to one habitat
6. Species with highly variable numbers or reproductive rates
7. Species which depend upon patchy, unpredictable resources
8. Routes/areas for migratory species
9. Species with large area requirements
10. Outstanding examples of species/habitats
    * Pristine
    * Aesthetic/recreational interest
    * Scientific/research value
11. Keystone species
12. Species/habitat rich areas
13. Species/habitats that occupy predominantly private lands (not in protective status)
14. Concentrated rare species/habitats
15. Unique to the ecoregion

One of the problems of using all the criteria for the Open Space Chapter is that information is not uniformly available at the regional level for all criteria except one: Habitats that occupy predominantly private lands (not in protective status). Even through this section focuses on this criteria, it is not the only way to "red flag" biodiversity problems, nor is the information presented of an appropriate scale to perform the recommended ecosystem management planning.

Many of the criteria focus on habitats as opposed to species. While the basic concern is about species, planning and management attention for species protection is shifting across the country to the ecosystem (i.e., habitat) level. This approach is perceived to be more effective; it better handles the known and still poorly- understood dynamics of all species in relationship with each other and their physical environments; it reduces or eliminates

the need for piecemeal planning and streamlines project permitting processes; and, it is more conducive to bringing all land use considerations and jurisdictions into the planning and management pictures.
Examples of plans and initiatives currently underway or recently completed in the region include the following:

Western Riverside County - Nearly the entire western portion of the county has undertaken conservation planning, initially for the Stephen's Kangaroo Rat. The study has been expanded to the Gnatcatcher and is evolving into a multiple species program. Thirty million dollars has been raised for habitat acquisition through development impact fees of $2,000 per acre. This planning effort, is to a large extent, consistent with the goals of NCCP. Policies in the Riverside County Plan are consistent with some of the strategies included in this Chapter. The Western Riverside Council of Governments (WRCOG) and the County of Riverside are also involved in this effort.

Orange County - The County of Orange, in collaboration with the federal Fish and Wildlife Service, the California Department of Fish and Game, local cities, private property owners and utilities, are currently processing NCCPs for two subregions. The Central and Coastal Subregion covers a planning area of 209,000 acres, while the Southern Subregion encompasses 131,000 acres. Together, these two NCCPs set aside habitat reserves of more than 80,000 acres, exclusive of the more than 60,000 acres which are already preserved as part of the National Forest. The Orange County efforts exemplify the policy approach of larger scale multi-species habitat preservation promoted in this Chapter.

As noted earlier, several ecosystem-scale planning projects are already underway in Southern California.

A determination has been made of ecosystems at risk of dysfunction using the combined knowledge of Southern California biologists to plot currently sensitive habitat/linkage areas and through the use of the California GAP Analysis being conducted by the University of California at Santa Barbara. The Gap Analysis involves computer overlays of mapped plant communities with private and public land ownership. Ownerships are assigned one of three protection levels depending upon to what degree land that administration is dedicated to biodiversity protection. GAP Analysis has some limitations: it is coarse-scale and non-specific in the location of species, does not recognize resource management problems, cannot "see" micro-habitats, and cannot be used for project-scale planning. However, it is futuristic and very revealing at a regional scale given the trend of wholesale conversions of private land natural areas to development. Plant communities "at risk" are those with very high amounts of private land or very low amounts of dedicated protection land (endemic to the ecoregion) and are subject to habitat loss and fragmentation to the point that more species of plants and animals could become listed. Within the three ecoregions that comprise the Association area, the following GAP findings are provided:

Southwest Ecoregion (i.e. coast to mountain ridge)

- Out of the 55 mapped communities, 18 communities are at risk, covering 29 percent of the natural land base.
- Thirty-two communities are small, linear, or already fragmented to a point where they could not be mapped. Most of them are at risk.
- Twenty-nine of 55 mapped communities are common to at least 10 percent coverage in both the Association's region and San Diego County (the SANDAG area).

Sonoran Ecoregion (i.e., southern or low desert)

- Out of the 18 mapped communities, five communities are at risk, covering 1.3 percent of the natural land base.

- Nine communities are small, linear, or fragmented to a point where they could not be mapped. Some are possibly at risk.

Mojave Ecoregion (i.e., northern or high desert)

- Out of the 21 mapped communities, three mapped communities are at risk, covering .27 percent of the land base.

Figure 9-6 displays of all the areas with plant communities at risk in both the Association's area and in San Diego County. These tend to be areas with high amounts of private land that, if developed, could reduce and fragment habitats and result in significant species losses. At this scale, Figure 9-6 only conveys the general idea of areas with plant communities at risk. The Association can provide this data at appropriate scales for specific areas.

Table 9-5 provides information on the aggregate of plant communities in the Association's area by county. In the technical appendix, additional information is available for each mapped community, including risk assessment, percentage currently zoned for development by county, ownership percentage by private and local, state, federal, and regional jurisdictions, and priority ranking for ecosystem management planning.

Pursuant to an agreement between the U.S. Department of Transportation (DOT), the U.S. Army-Corps of Engineers (Corps), and the U.S. Environmental Protection Agency (EPA), a commitment was made to integrate NEPA and Section 404 of the Clean Water Act in the transportation planning, programming, and implementation stages. The federal agencies agreed to ensure the earliest possible consideration of environmental concerns pertaining to the waters of the U.S. including wetlands, at each of the above stages. A high priority is placed on the avoidance of adverse impacts to waters of the U.S. and associated sensitive species, including threatened and endangered species. Whenever avoidance of waters of the U.S. is not practicable, minimum impacts will occur, and unavoidable impacts will be mitigated to the extent reasonable and practicable.

As the designated MPO, the Association is responsible for providing regional guidance, in compliance with the environmental planning provisions of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) regarding waters of the U.S. In planning federal transportation projects, the Association will consider environmental impacts to waters, wetlands, and associated sensitive species, and will avoid impacts to waters of the U.S. and associated sensitive species. Figure 9-7 shows the general location of wetlands and hydrologic resources.

Past regional growth has resulted in the loss of vast amounts of wetlands. In some areas of the region, 90 percent of the wetlands has been lost. Wetlands play an important role in maintaining water quality by providing natural filtration systems and are also important habitats for many types of species. Through the current federal permitting process, wetlands protection has been a piece-meal approach. This has result in long, sometimes unnecessary, delays in project approval.

Figure 9-6 Plant Communities at Risk

Figure 9-7

Table 9-5 HOLLAND PLANT COMMUNITIES IN THE ASSOCIATION OF GOVERNMENTS' PORTION OF THE SOUTHWEST ECOREGION SUMMARY BY COUNTY *

Column	1	2	3	4	5	6	7	8	9	10
County	Total Area of County in Ecoregion	Area in Natural Communities			Communities at Risk			Communities Not at Risk		
		Total	Public	Private	Total	Public	Private	Total	Public	Private
Los Angeles	2,949	1,681 57%	1,073 64%	609 36%	348 21%	80 23%	268 77%	1,333 79%	993 74%	341 26%
Orange	798	302 38%	112 37%	191 63%	171 57%	28 16%	143 84%	131 43%	84 64%	48 36%
Riverside	2,223	1,349 61%	690 51%	659 49%	570 42%	227 40%	343 60%	779 58%	463 60%	316 40%
San Bernardino	1,373	967 70%	708 73%	259 27%	92 10%	20 22%	72 78%	875 90%	688 79%	187 21%
Ventura	1,828	1,410 77%	896 64%	514 36%	479 34%	100 21%	379 79%	931 66%	796 85%	135 15%
All Counties	9,171	5707 62%	3479 61%	2232 39%	1660 29%	455 27%	1205 73%	4047 71%	3024 75%	1027 25%

* Area in square miles and %

Instructions to read:

1. Col 2 = that portion of total county area that is still natural.
2. Col 2's % = Col 2 area divided by Col 1 area.
3. Col 3 area + Col 4 area = Col 2 area.
7. Col 6 and Col 7 areas = Col 5 area.
8. Col 6's % + Col 7's % = 100 (i.e. relates only to Col 5 area).
9. Col 8 is that portion of Col 2 that is not at risk.

4. Col 3's % = Col 4's % = 100 (i.e. relates only to Col 2 area).
5. Col 5 is that portion of Col 2 that is at risk.
6. Col 5's % = Col 5 area divided by Col 2 area.
10. Col 8 % = Col 8 area divided by Col 2 area.
11. Col 9 and Col 10 area = Col 8 area.
12. Col 9's % + Col 10's % = 100.

Issues

1. Southern California ecosystems, mostly those on the lower elevations and gentle slopes of urbanizing areas, are shrinking, becoming fragmented, and not being managed to the point that many are in danger of serious dysfunction and hundreds of plant and animal species have become candidates for listing under *Endangered Species Acts* (ESA). The potential for more species to be listed will continue to increase as more lands get converted to urban development. Non-native plants and animals are invading many sensitive habitats and are displacing native species.

2. In areas "at risk," adverse habitat (or species) losses caused by one jurisdiction impacts all lands and jurisdictions within the same habitat.

3. Few jurisdictions are organized to contribute the necessary staff and time to working in a regional context to resolve problems.

4. Local jurisdictions' use of prevailing general planning, regulatory, and implementation tools lacks regional perspective and weight to protecting open space areas and resources.

5. Existing financing mechanisms are inadequate to provide the necessary funding for local governments to plan, acquire, manage, and monitor natural areas. Funding requirements have, to date, unfairly fallen to local jurisdictions and landowners.

6. Only about one-half of 1 percent of biodiversity nation wide has been sampled for new chemical compounds for medical and other products. Some plants and animals may be destroyed before their scientific and medicinal values are determined.

7. State and federal *Endangered Species Acts* emphasize species protection, but do not recognize that local jurisdictions, where the majority of issues arise, are not set up with the required means of assessing and planning for biodiversity and for funding the acquisition and management of natural areas. The protection of species and habitats is primarily in the state and federal arena, but local jurisdictions are most burdened.

8. The federal wetland permitting process has been a piece-meal approach to wetland protection which has caused long and costly delays in project approval.

Strategies

1. The Association should encourage participation among local, state and federal jurisdictions for the development of Ecosystems Management Plan and Natural Community Conservation Plan (NCCP) efforts, focusing on at-risk communities. The Association should encourage such partnerships to address the implementation, management, monitoring, and funding aspects of resource protection. As noted previously, several ecosystem plans have been or are soon to be initiated in the Association/SANDAG area. These are identified in Figure 9-8. All of this area, except coastal Los Angeles and Ventura counties, are covered by such plans.

2. The Association should encourage local, state and federal jurisdictions to focus resources on broader, multi-species habitat management areas to avoid duplication.

3. The Association should support scientifically-rigorous maintenance and enhancement of the Natural Diversity Date Base.

4. The Association should encourage jurisdictions responsible for open space and conservation decisions to utilize applicable market and cost/benefit analytical tools as well as scientific data in weighing competing development and open space/conservation options.

5. The Association should encourage local jurisdictions to consider directing growth into large acreage communities until ecosystem management plans are written (i.e.,the Southwest Ecoregion).(*See* Figure 9-7).

6. The Association should assist local governments in obtaining the funds necessary which will be needed in aggregate and on a sustained basis to cover planning, implementation, and long-term management and monitoring.

7. The Association should support regional efforts to identify and cooperatively plan for wetlands to facilitate both sustaining the amount and quality of wetlands habitats in the region and by expediting the process for obtaining wetlands permits.

8. The Association should promote the requirement that public hearings be held in the jurisdictions where new and potentially-threatened and endangered species designations are being considered for listing by federal and state agencies.

9. The Association should encourage the federal and state governments to review the applicability and appropriateness of the criteria used in determining new and potentially-threatened and endangered species and their habitats.

10. The Association should encourage the federal and state governments to establish a periodic monitoring process. This would enable the agencies to determine whether or not continued justification for listing threatened and endangered species was justified.

11. The Association should encourage federal and state governments to consider the subregions' input regarding to listing new and potentially-threatened and endangered species within their jurisdictions.

I. IMPLEMENTATION

Funding Resources

To achieve the goals identified in the Chapter, critical funding for the acquisition and management of open space resources needs to be identified. Open space conservation strategies will fail if funding strategies are not successful. Not only one-time funding will be required for land/easements, but sustained funding is also needed for long term implementation and management. Additionally, the burden of land acquisitions for the protection of species and habitats in areas predominantly in private ownership has historically been borne by developers and landowners and passed on to new land/homeowners. While some landowner mitigation may have to continue,

effective implementation will require emphasis on public sector funding, since the acquisitions are for public purposes. The nature of public funding for different projects should be commensurate with the nature and scope of the public values involved.

Figure 9-8 Bioregional Planning in Southern California

The Chapter identifies feasible funding strategies and other incentives that could be employed to achieve the region's desired objectives. Some of the funding sources available for open space planning, acquisition, and management are listed below:

- **Federal Sources**

  These include the *Land and Water Conservation* (LWCF), *Wetlands Reserve Program, Conservation Reserve Program, Farmers Home Administration Conservation Easements,* and other miscellaneous grants and land exchanges. Each year, $900 million is authorized for LWCF, but only about $200 million is actually spent, most going for federal acquisitions. Many agencies from throughout the country compete for these funds, but the cumulative total of all the unspent authorized funding could sustain the land acquisition needs of the nation for several years. However, LWCF may not be a stable source of funds for planning, management, and monitoring.

- **State Sources**

  These include the *California Wildlife, Coastal, and Park Land Conservation Act of 1988*; *California Wildlife Protection Act of 1990*; *Environmental License Plate Fund Grants;*, and *California Environmental Enhancement and Mitigation Program.*

- **Local Sources**

  These include mitigation fees, open space districts (Los Angeles and Riverside counties), and assessments.

- **Other Potential Sources**

  Federal: Real Estate Transfer Tax. This would include increasing current small scale exchanges within federal units to include massive desert-coastal land exchange programs. This would mean that lower value current open space federal lands would be traded for higher value current open space private lands and bring a federal resource management presence into the coastal area.

  State: Documentary, real estate taxes, lottery proceeds, bond initiatives, and oil and gas revenues.

  Regional/Local: Assessment district(s), transfer of development rights, donations, purchase by conservation agencies, user fees (utilities, highways, landfills, recreation sites), real estate transfer, facility-use fees, acquisition of tax-delinquent parcels, exchanges, and access to LWCF. This federal program supports federal, state, and local governments in acquisitions for recreation and habitat protection. Most LCWF allocations have historically gone to federal agencies.)

  Private: Compatible private uses of open space, gifts of private land for tax-benefits, private trusts, and life tenancies (free of taxation).

Incentives

There are also government-offered incentives for landowners who keep land in open space, including the

following:

- *The Williamson Act*;
- Reform water pricing/availability policy;
- Private party participation in open space programs, either for tax advantage or profit;
- Laws and guidelines for conservation agencies, land trusts, etc;
- Short-term and long-term tax reduction; and
- Environmental credits, transfers of credit, vehicle registration fees.

Some of the programs that currently exist may have to be revised and refined to be more effective. For example, the *Williamson Act* provides some protection for open space and agriculture lands, but as currently implemented, the act does not ensure long-term protection of those resources.

Role of the Association

In its facilitator role, the Association should provide assistance to local governments in the following ways:

- Serving as a repository and gatherer of information that will assist local governments in carry out their open space and conservation responsibilities;
- Developing and updating a comprehensive list of funding opportunities for open space resource acquisition and maintenance;
- Assisting in preparing grant requests;
- Facilitating requests with state and federal government agencies;
- Advocating new state and federal legislation to support the development funding mechanism for open space resources;
- Promoting the reauthorization of the federal *Endangered Species Act* and the inclusion of federal funding for acquisitions where species listings create funding hardships on local governments;
- Facilitating and promoting federal, state, and local partnerships to carry out open space and conservation planning;
- Advocating ecosystem management plans and NCCP efforts which balance economic and environmental goals; and
- Integrating open space needs into the planning and funding of other projects (i.e., transportation, clean water) and initiatives (i.e., NAFTA, ISTEA).

K. INTEGRATION OF OPEN SPACE WITH OTHER REGIONAL ISSUES

Because open space is directly tied to the region's quality of life and improving the standard of living, it intersects with several other issues facing the region and covered in the Association's **Regional Comprehensive Plan and Guide**. Briefly, these intersections include the following:

- Growth Management, Housing, and Economy. The potential impacts of housing and economic development activities necessitated by future growth on the region's ecosystems, including its open space resources, emphasizes the need for the Open Space and Conservation Chapter. Decisions regarding the

location of housing and other economic activities, and the siting of needed facilities should be made with the understanding of their potential impacts on open space resources. The current practice of planning for individual species has proved expensive and time consuming for landowners and developers, and is often cited as one of the reasons for the higher cost for housing and other economic activities in the region. The Chapter recommends multiple habitat planning; better cooperation between landowners and local agencies responsible for land-use development decisions; better coordination between the agencies with land management responsibilities and between the subregions, and, equitable funding sources for resource preservation and management with the goal of minimizing the negative effects of ecosystem management on economic development activities in the region.

- Air Quality, Water Resources, Solid Waste, Energy, and Water Quality. These Chapters have indirect impacts on the distribution of future growth and land-use/development activities in the region. They influence the region's urban form. In so doing, these Chapters indirectly affect the extent to which future development will encroach upon the region's ecosystem. The siting of water, wastewater, and solid waste disposal facilities may have impacts on open space resources. These facilities should be developed to minimize their negative impacts on open space uses, and to allow for subsequent conversion to some type of open space use. When feasible, energy transmission corridors should be designed as links between habitats. This Chapter promotes multiple use of resources when economically feasible and practical.

- Regional Mobility. Pursuant to the *Intermodal Surface Transportation Efficiency Act* (ISTEA), the siting and routing of transportation facilities should avoid open space resources including parklands, and wetlands. The potential impacts of transportation facilities on open space resources need to be examined in the environmental documentation for the transportation project, and appropriate mitigation measures need to be implemented to reduce impacts to levels of non-significance. Transportation facilities also influence the spatial arrangement of land use - the location as well as the intensity of land development. The extension of new corridors into rural areas, for example, will accelerate the rate of development in those areas. The policies in the Regional Mobility chapter have significant ramifications on the future of open space resources in the region. The Chapter influences most land use decisions, and therefore, the extent to which future development will impact open space resources. The potential encroachment of urban development and viable open space land could be minimized by focusing transportation investment on areas where such potential negative impacts are minimal. This Chapter will complement the efforts underway between federal agencies, including the Federal Highway Administration (FHWA), the Corps of Engineers, and Metropolitan Planning Organizations (MPOs) to streamline 404 permit requirements for transportation projects. The Association will use its repository of information as well as the environmental documentation provided by project applicants to evaluate the potential impacts of proposed transportation facilities on plant and animal life. The identification of the potential encroachment of facilities included in the Regional Mobility Element (REM) at the system level will allow adequate time to redefine the scope, alignment or geometry of the facility. A Memorandum of Understanding (MOU) is being developed to expedite subsequent permitting requirements for transportation projects consistent with the Regional Transportation Plan (RTP) developed by the MPO. In the Association's case, the RTP is the Mobility Element.